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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,402	11/03/2003	Krassimir P. Nenov	CGT-113	5770

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT PAPER NUMBER

3726

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,402

Applicant(s)

NENOV ET AL.

Examiner

Marc Jimenez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11032003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. During a telephone conversation with Mitchell Bittman on 3/15/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Applicant made an election over the phone in response to the restriction requirement mailed on 3/10/05.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 9** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites "from greater than 0 cm to about 2cm". It is unclear what this limitation encompasses. It is unclear whether this limitation means that the length is greater than 0 cm to greater than about 2 cm or whether the length is between 0 cm to about 2 cm.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 3, and 5-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Zehahy (US 4,214,355).

Zehahy teaches a method of repairing a gas turbine engine turbine blade, the blade having an airfoil and a tip cap on the airfoil at the tip of the blade comprising: removing the tip cap (col. 2, lines 16-17) and a portion of the airfoil (col. 4, lines 6-7) from the blade to form a repair surface on the airfoil **12**; forming a replacement tip section comprising a replacement tip cap and a replacement portion of an airfoil **18** sized to fit onto the repair surface **24**, and attaching the replacement tip section **18** to the repair surface.

Regarding claim 3, note the squealer tip **26** extending beyond the cap **18**.

Regarding claim 5, the replacement tip section further comprises a replacement squealer tip **26**.

Regarding claim 6, note the through holes **22**.

Regarding claim 7, the replacement tip section **18** is attached by thermomechanical diffusion bonding (col. 4, line 44).

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Regarding claim 8, the “closure plate” **20** could be considered a replacement tip “section” cast as one piece (col. 2, line 3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2, 4, and 10** are rejected under 35 U.S.C. 102(b) as anticipated by Zehahy or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zehahy in view of Jackson et al.

It is inherent that before repair of the airfoil **12** of Zehahy, the blade, the tip cap and the squealer portion have been manufactured as one piece because turbine blades are typically made initially as a single piece. Alternatively, in figure 1, Jackson et al. teach a single piece turbine blade having a tip cap and squealer portion. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Zehahy with the blade, the tip cap and the squealer portion having been manufactured as one piece, in light of the teachings of Jackson et al., in order to reduce the number of assembly steps. Official notice is taken that it was well known to a person of ordinary skill in the art, at the time of the invention, to have used casting to create the one piece airfoil and tip cap, in order to create a symmetrical and accurate shape of the airfoil.

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Regarding claim 10, Zehahy teaches the invention cited with the exception of the replacement tip section being machined to size.

Jackson et al. teach machining to size (see paragraph [0029], lines 20-22).

8. **Claim 9** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zehahy.

Regarding claim 9, as best understood, the length of the replacement section is greater than 0 cm to about 2 cm. Alternatively, official notice is taken that it was well known to a person of ordinary skill in the art, at the time of the invention, to have provided the claimed length, in order to provide the desired blade tip length depending on the size of the turbomachine.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number (571) 272-4530. The examiner can normally be reached on Monday-Friday between 5:30 a.m.-2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ

April 5, 2005


MARC JIMENEZ
PRIMARY EXAMINER
4/5/05